

CLAIMS

1. A method for providing a copy permission indicator in a video signal, comprising the steps of:

detecting copy management information that has been appended to the video signal;

generating a protect code signal based on said copy management information, said protect code signal having plural coded bits and being operable to indicate a generation limitation on copying of the video signal; and

arraying said protect code signal at a pre-set position in the video signal.

2. The method according to claim 1, wherein said protect code signal includes two bits of information, each having distinct significance and together identifying various copy permission states.

3. The method according to claim 2, wherein said two bit protect code signal is indicative of at least three copy permission states: copying is permitted without restriction, one generation of copying is permitted and no copying is permitted.

4. The method according to claim 1, wherein the video signal includes a vertical blanking interval, and wherein said protect code signal is encoded in the vertical blanking interval of the video signal at line 20 of a field.

5. The method according to claim 1, wherein the video signal includes a vertical blanking interval, and wherein said protect code signal is encoded in the vertical blanking interval of the video signal at line 21 of a field.

6. The method according to claim 1, wherein the video signal includes a vertical blanking interval, and wherein said protect code signal includes two bits of information, each having distinct significance and together identifying various copy permission states, said protect code signal is encoded in the vertical blanking interval of the video signal at line 20, and a logical "1" of said protect code signal is represented by a level of about 50-IRE and a logical "0" of said protect code signal is represented by a level of about 0-IRE.

7. The method according to claim 1, wherein the video signal includes a vertical blanking interval, and wherein said protect code signal includes two bits of information, each having distinct significance and together identifying various copy permission states, said protect code signal is encoded in the vertical blanking interval of the video signal at line 21, and a logical "1" of said protect code signal is represented by a level of about 70-IRE and a logical "0" of said protect code signal is represented by a level of about 0-IRE.

8. A method of providing copy protection in a video signal of the type having a vertical blanking interval and having sync pulses, comprising the steps of:

detecting copy management information that has been appended to the video signal;

generating a protection signal based on said copy management information; and

inserting said protection signal into the video signal by arraying a multiple of pseudo-sync pulses in the vertical blanking interval of the video signal, said pseudo-sync pulses having an amplitude approximately equal to the amplitude of the video signal sync pulses, and arraying a multiple of automatic

gain control (AGC) pulses in the vertical blanking interval of the video signal.

9. The method according to claim 8, wherein the duration of said AGC pulses is approximately 3.0 microseconds.

10. The method according to claim 8, wherein the video signal exhibits a peak white amplitude, and wherein the amplitude of said AGC pulses is approximately slightly greater than the peak white amplitude.

11. The method according to claim 8, wherein said pseudo-sync and AGC pulses are inserted on lines 1 to 17 and 273 to 280 of the vertical blanking interval of the video signal.

12. The method according to claim 8, wherein said pseudo-sync pulses have a duration of approximately 2.2 microseconds.

13. The method according to claim 8, wherein the video signal includes color burst signals of a particular phase, and further comprising the step of modifying the phase of at least a portion of selected color burst signals of the video signal.

14. The method according to claim 13, wherein the steps of arraying said pseudo-sync pulses, arraying said AGC pulses and modifying the phase are performed for two successive lines of every 17 lines of the vertical blanking interval beginning at line 30 in field 1 and at line 301 in field 2.

15. The method according to claim 13, wherein the steps of arraying said pseudo-sync pulses, arraying said AGC pulses and modifying the phase are performed for four successive lines of every 21 lines of the vertical blanking interval beginning at line 24 in field 1 and at line 297 in field 2.

16. A method of providing copy protection in a video signal having a vertical blanking interval, comprising the steps of:

detecting copy management information that has been appended to the video signal in the form of a multiple of trigger bits in the video signal; and

arraying a multiple of pseudo-sync pulses and a multiple of automatic gain control pulses in the video signal when said trigger bits indicate that copying should be inhibited.

17. The method according to claim 16, wherein the video signal includes color burst signals of a particular phase, and further comprising the step of modifying the phase of at least a portion of selected color burst signals of the video signal when said trigger bits indicate that color burst modification should be performed.

18. The method according to claim 16, wherein said trigger bits are only operable when copyright subsists in the video signal.

19. The method according to claim 16, wherein said trigger bits are encoded in the vertical blanking interval of the video signal at line 20 of field 1 and line 20 of field 2.

20. The method according to claim 19, wherein said trigger bits are bits 9 and 10 of word 2 in a 20 bit digital signal.

21. An apparatus for providing a copy permission indicator in a video signal, comprising:

means for detecting copy management information that

has been appended to the video signal;

means for generating a protect code signal based on said copy management information, said protect code signal having plural coded bits and being operable to indicate a generation limitation on copying of the video signal; and

means for arraying said protect code signal at a pre-set position in the video signal.

22. The apparatus according to claim 21, wherein said protect code signal includes two bits of information, each having distinct significance and together identifying various copy permission states.

23. The apparatus according to claim 22, wherein said two bit protect code signal is indicative of at least three copy permission states: copying is permitted without restriction, one generation of copying is permitted and no copying is permitted.

24. The apparatus according to claim 21, wherein the video signal includes a vertical blanking interval, and wherein said protect code signal is encoded in the vertical blanking interval

of the video signal at line 20 of a field.

25. The apparatus according to claim 21, wherein the video signal includes a vertical blanking interval, and wherein said protect code signal is encoded in the vertical blanking interval of the video signal at line 21 of a field.

26. The apparatus according to claim 21, wherein the video signal includes a vertical blanking interval, and wherein said protect code signal includes two bits of information, each having distinct significance and together identifying various copy permission states, said protect code signal is encoded in the vertical blanking interval of the video signal at line 20, and a logical "1" of said protect code signal is represented by a level of about 50-IRE and a logical "0" of said protect code signal is represented by a level of about 0-IRE.

27. The apparatus according to claim 21, wherein the video signal includes a vertical blanking interval, and wherein said protect code signal includes two bits of information, each having distinct significance and together identifying various copy



permission states, said protect code signal is encoded in the vertical blanking interval of the video signal at line 21, and a logical "1" of said protect code signal is represented by a level of about 70-IRE and a logical "0" of said protect code signal is represented by a level of about 0-IRE.

28. An apparatus for providing copy protection in a video signal of the type having a vertical blanking interval and having sync pulses, comprising:

means for detecting copy management information that has been appended to the video signal;

means for generating a protection signal based on said copy management information; and

means for inserting said protection signal into the video signal by arraying a multiple of pseudo-sync pulses in the vertical blanking interval of the video signal, said pseudo-sync pulses having an amplitude approximately equal to the amplitude of the video signal sync pulses, and arraying a multiple of automatic gain control (AGC) pulses in the vertical blanking interval of the video signal.

29. The apparatus according to claim 28, wherein the

duration of said AGC pulses is approximately 3.0 microseconds.

30. The apparatus according to claim 28, wherein the video signal exhibits a peak white amplitude, and wherein the amplitude of said AGC pulses is approximately slightly greater than the peak white amplitude.

31. The apparatus according to claim 28, wherein said pseudo-sync and AGC pulses are inserted on lines 1 to 17 and 273 to 280 of the vertical blanking interval of the video signal.

32. The apparatus according to claim 28, wherein said pseudo-sync pulses have a duration of approximately 2.2 microseconds.

33. The apparatus according to claim 28, wherein the video signal includes color burst signals of a particular phase, and further comprising means for modifying the phase of at least a portion of selected color burst signals of the video signal.

34. The apparatus according to claim 33, wherein the

operations of arraying said pseudo-sync pulses, arraying said AGC pulses and modifying the phase are performed for two successive lines of every 17 lines of the vertical blanking interval beginning at line 30 in field 1 and at line 301 in field 2.

35. The apparatus according to claim 33, wherein the operations of arraying said pseudo-sync pulses, arraying said AGC pulses and modifying the phase are performed for four successive lines of every 21 lines of the vertical blanking interval beginning at line 24 in field 1 and at line 297 in field 2.

36. An apparatus for providing copy protection in a video signal having a vertical blanking interval, comprising:

means for detecting copy management information that has been appended to the video signal in the form of a multiple of trigger bits in the video signal; and

means for arraying a multiple of pseudo-sync pulses and a multiple of automatic gain control pulses in the video signal when said trigger bits indicate that copying should be inhibited.

37. The apparatus according to claim 36, wherein the video

signal includes color burst signals of a particular phase, and further comprising means for modifying the phase of at least a portion of selected color burst signals of the video signal when said trigger bits indicate that color burst modification should be performed.

38. The apparatus according to claim 36, wherein said trigger bits are only operable when copyright subsists in the video signal.

39. The apparatus according to claim 36, wherein said trigger bits are encoded in the vertical blanking interval of the video signal at line 20 of field 1 and line 20 of field 2.

40. The apparatus according to claim 39, wherein said trigger bits are bits 9 and 10 of word 2 in a 20 bit digital signal.